

Facilities Available for Teachers to Support the Learning Needs of Children with Disabilities in the Inclusive School Setting

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Abstract

This paper investigated facilities available for teachers to support the learning needs of children with disabilities in the pilot inclusive school setting in Ghana. A cross sectional survey design was used. The population for the study was 300 teachers from 15 (pilot) inclusive schools in Ghana. A total of 150 teachers were sampled through simple random selection and then 15 headteachers were purposively selected for the study; all adding to 165 respondents. Instruments for data collection involved a five-point likert scale questionnaire and a semi-structured interview. Quantitative data were analyzed using descriptive statistics. The qualitative data were discussed, using the thematic approach. The results showed that teachers lacked the requisite skills and facilities necessary in teaching in inclusive classroom environments. It was recommended that facilities in form of adaptable curriculum, instructional materials, equipment & building, administrative support and assistive technology, must be made available for the inclusive school teacher.

Keywords: Facilities; Support; Basic school; Inclusive schooling; Inclusive teaching; Pilot inclusive schools.

1. Introduction

Teachers are required to include and support children with disabilities in their regular classes so they can access the curriculum and become actively involved in the school community.

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This means teachers require additional content and methodology knowledge, skills and competencies specific to a wider range of diverse needs [15, 16, 17, and 18]. In a research conducted in the Northern Region of Ghana by [6], in (2006), it came to light that inadequate teaching and learning materials such as Teachers' Guides for some subjects, syllabus, textbooks and appropriate teaching and learning materials for special learners was one of the challenges to inclusive education identified by the teachers interviewed. Other challenges included the lack of special methods to attend to special needs children who are disruptive in the classroom. For these challenges to be overcome therefore, teachers must have available and be able to effectively use appropriate pedagogy, teaching and learning resources for both children with disabilities and their non-disabled peers in inclusive schools. For policies and programmes to be effective, it is important that facilities are considered and how these facilities influence the teaching of children with disabilities in regular schools. This paper therefore examines facilities available for teachers to support the learning needs of children with disabilities in the pilot inclusive school setting in Ghana.

1.1. Research Question

The following research question guided the study;

What facilities are available for teachers to support the learning needs of children with disabilities in the inclusive school setting?

2. Materials and methods

This paper presents the research methodology, which is both quantitative and qualitative (mixed approach), the explanatory sequential design as a type of mixed approach and the research design used in this study. The researcher discusses the population, sample and sampling techniques, the type of research instrument used, the sampling procedure, the data collection procedure as well as the data analysis plan.

2.1. Quantitative and Qualitative Research Methodology

2.1.1. Quantitative research

For this work, the focus of the quantitative research is to determine facilities available for teachers to support the learning needs of children with disabilities in the pilot inclusive school setting in Ghana. The goal is to develop generalisations which contribute to theory that enable the researcher to predict, explain the availability of facilities towards inclusive teaching. A quantitative research approach relies primarily on the collection of quantitative data. This supports the view of [11], quantitative research is "an inquiry approach useful for describing trends and explaining the relationship among variables found in the literature" (p. 58). Reference [2], describe quantitative research methods as explaining phenomena by collecting numerical data that are analysed using mathematically based methods (in particular statistics). Quantitative Research is used to quantify the problem by way of generating numerical data or data that can be transformed into useable statistics. Reference [12] shares the view that quantitative data is used to quantify views, opinions, behaviours, and other defined variables – and generalize results from a larger sample population. Quantitative Research uses measurable data

to formulate facts and uncover patterns in research. Reference [24] states that the use of standardised methods in quantitative research, allows for greater objectivity and accuracy of results. Generally, quantitative methods are designed to provide summaries of data that support generalisations about the phenomenon under study. In order to accomplish this, quantitative research usually involves few variables and many cases, and employs prescribed procedures to ensure validity and reliability.

2.1.2. Qualitative research

In order to obtain in-depth information on the research topic and to articulate with the quantitative instrument (questionnaire), semi-structured interview questions were designed for the study. Some of the research participants (headteachers) expressed their personal reflections in relation to the said topic. The qualitative data collection instrument (semi-structured interview) was designed based on the same questions used in structuring the quantitative data, but provided greater insight, both to the respondents and the researcher. Qualitative research is useful for expanding further on the quantitative research data because it helps to establish a relationship that may create changes in the research settings [7]. In the view of [13], “qualitative research involves the study use and collection of a variety of empirical materials, personal experience, introspection, life story, interview, artifacts, cultural texts and productions; observational, historical, interactional, and visual texts—that describe routine and problematic moments and meanings in individuals’ lives. Accordingly, qualitative research deploys a wide range of interconnected interpretive practices, hoping always to get a better understanding of the subject matter at hand” (p.3-4). Qualitative research is explained by [11] as: “an enquiry useful for exploring and understanding a central phenomenon by asking the research participants broad and specific questions in order to collect detailed information and analysis of the information for description and themes. From the data, the researcher interprets the meaning of the information drawing on personal reflection and past research” (p. 58). Qualitative research, asks broad questions and collects word data from phenomena or participants. The researcher looks for themes and describes the information in themes and patterns exclusive to that set of participants.

2.2. The explanatory sequential design/mixed approach

Reference [23] stated that there are two fundamentally different kinds of research in the field of education: quantitative and qualitative research. They mentioned that the terms refer to how the data are collected and analysed and the type of generalisations derived from the data. In this paper, the researcher made use of the explanatory sequential design/mixed approach. The mixed methods is a procedure for collecting, analyzing, and “mixing” or integrating both quantitative and qualitative data at some stage of the research process within a single study for the purpose of gaining a better understanding of the research problem [28,8]. The rationale for mixing both kinds of data within one study is grounded in the fact that neither quantitative nor qualitative methods are sufficient, by themselves, to capture the trends and details of a situation. Figure 1 shows the explanatory sequential design/mixed approach that is employed for the study;

From figure 1, quantitative data is collected and analysed first and this is followed by the collection and analysis of qualitative data and the results from both data are interpreted within the study.

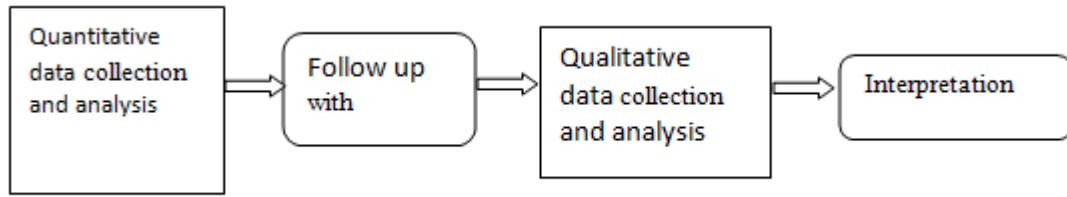


Figure 1: Diagrammatic presentation of the explanatory sequential design/mixed approach.

2.3. Research design

This article utilised a cross-sectional survey design to assess facilities available for teachers to support the learning needs of children with disabilities in the pilot inclusive school setting in Ghana. A Cross-sectional design involves the collection of data on more than one case, and at a single point in time, in order to collect a body of data (quantitative and/or qualitative) in connection with two or more variables, which are then examined to detect patterns of association [5]. The cross-sectional survey design is suitable for this study because it has permitted the researcher to obtain data from the schools for the study with ease. It would as well allow the researcher to collect data from the kind of sample required for the study, thus presenting what has been found out without any prejudice.

2.4. Population

The accessible population of the study, comprising all the teaching staff and the headteachers, was 300 from fifteen selected pilot inclusive schools in Ghana. The fifteen selected basic schools were made up of five (5) selected inclusive schools in the southern part of Ghana, five (5) selected inclusive schools in the Central part of Ghana and other five (5) selected inclusive schools in the Northern part of Ghana. The distribution of pilot schools by region is as follows;

Table 1: Breakdown of the Pilot Inclusive Schools by Region and by Zone

Region	Zone	No. of schools
Greater Accra	Central	43
Western	Central	50
Central	Central	141
Volta	Southern	13
Eastern	Southern	434
Ashanti	Southern	30
Northern	Northern	392
Upper East	Northern	159
Upper West	Northern	176
Brong Ahafo	Northern	30
Total		1468

Source: Special Education Headquarters, Accra, 2014

Table 1 shows a break-down of the Population of pilot inclusive schools across the regions in Ghana. The regions were further grouped into three zones by the researcher. These are; Southern, Central and Northern zones. The classifications were done to facilitate field study and data collection.

2.5. Sample and Sampling Technique

2.5.1. Sample

A sample size of 165 teachers was selected from the fifteen inclusive schools in Ghana for the study. This was made up of eleven (11) respondent teachers, comprising ten class teachers and one headteacher from each of the fifteen (15) selected schools. The teachers and headteachers (165 in all) selected from the inclusive schools for the study, were included in the study. Table 2 presents details of the list of schools for the study, the researcher's demarcated zones for the study and the number of teachers selected for the study on inclusive school teaching.

Table 2: List of Pilot Inclusive Schools for the Study

Inclusive school	Zone	No. of teachers selected
Richard Acquaye Memorial School, Accra	central	10
Madina Cluster 1 School	central	10
Fr. John Memorial Inclusive School, Winneba	central	10
Ghana National Basic School, Cape Coast	central	10
Anglican Basic School, Winneba	central	10
Anglican Primary School, Ho	Southern	10
Three Kings Basic School, Awakpedome	Southern	10
Asenama D/A Primary School	Southern	10
Mampong Presbyterian Primary School	Southern	10
Aprebi Methodist Primary School	Southern	10
Garu Presbyterian JHS, Garu-Timpani	Northern	10
St. Charles Basic Schools, Navrongo	Northern	10
Tamaligu AME Zion Primary	Northern	10
Tatale D/A Primary, Tatale	Northern	10
Woribogu D/A JHS, Zabzugu	Northern	10
Total		150

Source: field data, 2014

Table 2 presents the list of schools from which data had been collected for the study. As said earlier, 15 schools were selected out of which 150 teachers in all, were involved in the study. In addition, 15 headteachers were purposively selected for the study. In selecting the sample of teacher respondents for the study, the number of

pilot inclusive schools in each region with the required staff strength, was considered and prioritised. These pilot inclusive schools were targeted for the study because they had a fairly large population, from which the sample was easily selected and also, the sample was representative of the population of the pilot inclusive schools in each zone.

2.5.2. Sampling Technique

In this paper, purposive sampling, simple random sampling and the quota sampling techniques were employed for the study. The fifteen schools for the study were purposively selected. The rationale behind the schools to be purposively selected for the study in Ghana was to locate information rich areas and cases from which a sample size could be selected for the research. The schools selected had the required staff strength in place and made the population of teachers a fairly large one from which to select a sample size which represented the population of the inclusive schools in Ghana.

A sample of 150 class teachers was randomly selected from the pilot inclusive schools in addition to 15 headteachers, who were purposively selected from the 15 selected inclusive schools in Ghana, for the study. A quota of 10 teachers and 1 headteacher from each of the 15 selected schools totalling 165 respondents, constituted the sample size. In quota sampling, emphasis is on proportions in which sample can be established in the bigger population [1]. A quota of 10 teachers was chosen, so as to ensure an even distribution of the respondents over the 15 schools selected for the study.

The fifteen headteachers, one from each school, were purposively selected for the study. This is because for each basic school, there is mainly only one head to be selected for the study. Cohen, [7] cited in [1] shared the view that in purposeful sampling, the researcher handpicks the cases to be included in the sample on the basis of their judgment to the typicality. [3] explains that “when developing a purposive sample, researchers use their special knowledge or expertise about some group to select subjects who represent this population” (p.110). [32] contends that occasionally, it may be appropriate for you to select your sample on the basis of your own knowledge of the population, its elements and the nature of your research aims: In short, based on your judgment and the purpose of the study.

The simple random sampling technique was employed to select the ten class teachers from each school. This was carried out “to give each member of the population, equal opportunity of being selected and this was done through random selection” [1]. In order to arrive at the quota for the sample of teachers selected for the study, the lottery technique was used in each of the selected schools for the study in the accessible inclusive schools in Ghana:

2.6. Instrumentation

Two instruments of data collection were adopted for the study. These were; a Likert scale questionnaire and a semi-structured interview.

2.6.1. Questionnaire

A self-administered questionnaire which is in line with the purpose of the study, was used for the study. The questionnaire was created by the researcher, based on several related instruments, designed by earlier researchers. The questionnaire had two sections: A and B with close ended questions. Section A sought for the biographical data and the background of the respondents. For example, gender, age, academic status, teaching experience, subject taught, etc. Section B intended to find out about facilities available for inclusive school teaching and learning.

A questionnaire was used because it offers a researcher an opportunity to sample the views of a larger population. Additionally, the use of the questionnaire helps to ensure that the researcher gets a high proportion of information that is usable. Also, the use of the questionnaire saves time and money since many respondents can be attended to at the same time.

2.6.2. Interview

A semi-structured interview was adopted for the study. [25] mentioned that when employing the semi-structured interviews, the interviewers have their shopping list of topics and want to get response to them, but as a matter of tactics, they have greater freedom in the sequencing of questions in their exact wording; and in the amount of time and attention given to different topics. [3] added that these interview questions are typically asked of each interviewee in a systematic and consistent order, but the interviewers are allowed freedom to digress, that is, the interviewers are permitted (in fact expected) to probe far beyond the answers to their prepared and standardised questions.

In this research, the researcher interviewed the headteachers in the selected schools, using a semi-structured interview. The aim of using a semi-structured interview was to obtain a clearer and fuller picture of the responses gathered from the questionnaire. A semi-structured interview for the headteachers was intended to elicit descriptive and in-depth data from participants, who in their own words, responded to questions posed by the interviewer [7,22].

3. Data analysis

The study was a cross-sectional survey research design, which is in consonance with the view that surveys are based on samples of a specified target population – the group of persons in who interest is expressed [4], “one of the purposes of analysis is to express the data in a way that is “mentally digestible” (p.40). This implies that after analysis, individual and interested readers should understand or make meaning out of the analysed data. In the viewpoint of [14], the aim of conducting data analysis is “to transform that data into an answer to the original research question” (p.47).

Two instruments, a five-point Likert Scale Questionnaire and a Semi-Structured Interview were used for data collection that were analysed. The purpose of using the two instruments for data collection and analysis was to triangulate the responses and draw reliable and valid conclusion on facilities available for teachers to support the learning needs of children with disabilities in the inclusive school setting. [14] alluded that data are analysed in two forms. The quantitative data is analysed by means of statistical analysis in which data are transformed into

numbers, percentages, tables and diagrammatic representations. The qualitative data on the other hand, is analysed through the identification of themes in the data, and thereafter the relationship of the themes established (thematic approach); the process is known as coding.

The quantitative data was collected from the fifteen selected inclusive schools in Ghana. The inclusive school teachers in the selected schools of the study responded to the questionnaires. To facilitate the analysis of data through the Statistical Package for Social Sciences, descriptive statistics (mean, median and mode) was employed for the data on facilities available for teachers to support the learning needs of children with disabilities in the inclusive school setting.

With regard to the interview component, interview questions were based on the research questions generated for the collection and analysis of quantitative data. Reference [21] prescribed the process of qualitative analysis which was done as follows:

After interviewing the respondents, the interview recordings were transcribed. The whole interview was read first and classified into themes while notes were taken of the most striking aspects related to the purpose of the study. Content analysis was done whereby data were reduced by means of constructed themes. Themes were grouped together by comments that seemed to belong together. These themes were then used to generate contextually and practically appropriate recommendations in order to ultimately understand teacher knowledge and beliefs about teaching in inclusive schools. The qualitative analysis was achieved through the utilisation of a procedure which consists of the following steps, prescribed by [9]. These are: data collection; data managing; reading; describing; classifying; interpreting; representing and visualising. Throughout the stages of the interview, Pseudonyms were assigned to the respondents in order to ensure anonymity. According to [7], the essence of anonymity means the researcher should in no way reveal participants' identities and so, this was strictly adhered to.

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4. Presentation of results and findings

This paper presents the results and the findings of the study on facilities available for teachers to support the learning needs of children with disabilities in the inclusive school setting in Ghana. The section first presents the quantitative data and then the qualitative data alongside. The section outlines the results on the main data of the study, leading to the answering of the research question raised.

Presentation of Quantitative and Qualitative data

Research Question:

What facilities are available for teachers to support the learning needs of children with disabilities in the inclusive school setting?

The research question addresses the issue of availability of facilities that support the learning needs of children with regard to teaching in inclusive schools.

This is presented in table 3 below;

Table 3: Facilities available for Teachers to Support the Learning Needs of Children with disabilities in Inclusive Schools

FACILITIES						
	Regular class teachers can provide for the teaching needs of the disabled when resources are available.	Administrative support ensures positive results with inclusive programmes for children with disabilities.	Adaptations to the physical environment of schools help pupils with disabilities to benefit from teaching in inclusive classrooms.	Availability of teaching resources improves lesson delivery in inclusive classrooms	Making learning facilities accessible for the disabled improves the performance of the disabled in inclusive schools	Assistive technology such as computers enhances learning for children with special needs in inclusive schools.
N Valid	145	146	146	144	146	146
Missing	1	0	0	2	0	0
Mean	1.7241	1.6712	1.6507	1.4167	1.4315	1.8836
Median	2.0000	2.0000	2.0000	1.0000	1.0000	2.0000
Mode	2.00	2.00	2.00	1.00	1.00	2.00

Source: Field data, 2014

Table 3 focuses on the facilities available for teachers to support the learning needs of children with disabilities in the inclusive school setting. Available facilities in the following areas were considered: administrative support; adaptations to physical environment; teaching resources, and then assistive technology. The statistical analysis was done using measures of central tendency; mean, median and mode as depicted by the table.

A score close to value 2 refers to participants having to “Agree” with the statement that *regular class teachers can provide for the teaching needs of the disabled when resources are available*. A score close to value 2 refers to participants having to “Agree” with the statement that *regular class teachers can provide for the teaching needs of the disabled when resources are available*. The modal score on the statement that; *regular class teachers can provide for the teaching needs of the disabled when resources are available* was 2.0 (*mean*=1.7241).

The following statements were also posed: Administrative support ensures positive results with inclusive programmes for children with disabilities; Adaptations to the physical environment of schools help pupils with disabilities to benefit from teaching in inclusive classrooms; Making learning facilities accessible for the disabled improves the performance of the disabled in inclusive schools; Assistive technology such as computers enhances learning for children with special needs in inclusive schools. All the aforementioned statements recorded modal and mean scores of (2.0; 1.6712), (2.0; 1.6507), (1.0;1.4167), (1.0;1.4315) and (2.0;1.8836) respectively. The findings clearly show that there are only moderate (limited) facilities that are available for teachers to support the learning needs of children with disabilities in the inclusive school setting.

Respondents noted that without the availability of disabled-friendly and modified facilities, teaching in inclusive schools would be an impossible venture, since these facilities may not be beneficial to children with disabilities in the regular classroom.

Inadequate support facilities

Another theme that emerged was the inadequacy of support facilities to support the teaching and learning needs of children with disabilities in inclusive schools. One headteacher remarked;

We have some of the facilities. Just that they are inadequate to meet the needs of visually impaired children.
(Verbatim report from headteacher RAMS)

Another headteacher who bemoaned the inadequacy of the facilities at his disposal went a step further to mention the only source of the facilities when he commented;

We have only a few facilities we are managing for now. In fact, they are donations from the Ghana Blind Union.
(Verbatim report from headteacher MAPP)

From the discussions made on the interview responses, few of the headteachers noted that they had some of the facilities. Some of the facilities mentioned include; braille machines, computers, tape-recorders and magnifiers. Just that they are inadequate to meet the needs of special needs children in their classrooms. Since these

facilities are not enough to go round all the children, some of these children are likely to remain passive during teaching and learning; thereby, preventing them from benefitting from teaching in their inclusive classrooms.

5. Discussions

This paper discusses the findings of the study on facilities available for teachers to support the learning needs of children with disabilities in the inclusive school setting of Ghana. Analysis of the quantitative data was done alongside discussions on the qualitative data.

The Research question addressed the issue of availability or unavailability of facilities in pilot inclusive schools in Ghana. The key facilities upon which responses were given included; adaptable curriculum, instructional materials, equipment and building, administrative support and assistive technology. In all, the presented data showed that regular class teachers could provide for the teaching needs of the disabled when resources were available. For instance, the modal score from the respondents, responding to the question on the Likert scale was 2.0 (*mean*=1.7241). A score close to value 2 refers to participants having to “Agree” with the statement that regular class teachers can provide for the teaching needs of the disabled when resources are available. It was also evident from the other responses that there are moderate facilities that are available for teachers to support the learning needs of children with disabilities in the inclusive school setting. What was certain from the responses was that while some of the inclusive schools were having a few facilities to support the teaching and learning needs of the children with diverse needs, some of the inclusive schools lack these facilities. This makes it difficult for the teachers to teach children with disabilities in their inclusive classrooms, even if such teachers have training and knowledge in teaching such children.

Teachers teaching in inclusive schools stressed their concern that as more children are included, teachers would need additional tools and skills for coping with the social and emotional problems that accompany inclusive school teaching [19]. Reference [33,34] accentuated the importance of inclusive curriculum for inclusive school teaching. According to them, an inclusive curriculum provides the educational programme to all the children in the class regardless of who they are. An inclusive curriculum means that there is one curriculum for all the children to participate in. In the case of Ghana, [35] noted that there are a large number of pupils with special needs in the regular schools but are not benefiting from the broad range of curriculum experiences, arising in part from the absence of relevant intervention from teachers, and in part from the absence of a clear cut policy on the education of children with disabilities by the government of Ghana. All these have prevented the disabled from deriving the maximum benefit from an inclusive classroom teaching. Apart from the curriculum, there is also the need for modified and adaptable teaching and learning resources for children with disabilities to also fully participate in the teaching and learning process. [36] opined that teaching and learning resources should be modified to meet the needs of the individual child. Teachers need to be innovative and creative to provide activities to appropriately differentiate their programmes. The inference is that, if inclusive teaching is to be successful within the pilot inclusive schools in Ghana, one clear condition is that teaching methods, instructional materials and curricula will need to change in order to accommodate the diversity of students to be included in the average classroom [30].

The interview responses from the Headteachers gave prominence in their responses to the indispensability of facilities in inclusive school teaching. From the interview responses, majority of the headteachers noted that either they were not having the facilities at all or they were woefully inadequate.

Reference [37] took a categorical look at facility support in the physical environment of the classroom and by extension, the inclusive school. He went on to say that; teachers would need to modify their classrooms in order to accommodate all the children. The classroom environment should enable all children, especially those with physical and sensory impairments, to participate fully in the classroom teaching and learning [37]. Proper positioning of children and furniture, seating and opportunities for regular movement are very important for many children with disabilities inside the classroom [37]. In the area of assistive technology, [38] also suggested that; computers enhance teaching and learning for children with special needs. There is therefore the need for teachers and children to be supplied with the modern technological facilities, since they enhance understanding and also facilitate child learning [38]. In summary; this paper explored the facilities that are available for teachers to support the learning needs of children with disabilities in the inclusive school setting. From the analysis presented, it was established that most pilot inclusive schools in Ghana either have inadequate facilities to support the teaching of children with disabilities in regular classrooms or such facilities are non-existing in some of these inclusive schools. Consequently, from the current research, it is evident that some children with disabilities partly benefit or not at all from the teaching environment in inclusive schools. They therefore pass through the school, without the content having any impact on such children with diverse needs. In order not for inclusive school teaching be made a fruitless activity, appropriate and relevant facilities must be provided to support teaching in inclusive schools. This will go a long way to realise the dreams of teaching children with disabilities in inclusive schools. In that case, inclusive school teaching will not be perceived in theory but will be seen to be existing in practice.

6. The main findings

Pilot inclusive schools either have inadequate facilities to support the teaching of children with disabilities in regular classrooms or such facilities are non-existing in some of these inclusive schools. Consequently, from the current study, it is evident that some children with disabilities partly benefit or not at all from the teaching environment in inclusive schools. They therefore pass through the school, without the content having any impact on such children with diverse needs. In order not for inclusive school teaching be made a fruitless activity, appropriate and relevant facilities must be provided to support teaching in inclusive schools. This will go a long way to realise the dreams of teaching children with disabilities in inclusive schools. In that case, inclusive school teaching will not be perceived in theory but will be seen to be existing in practice.

7. Conclusions

This study focused on facilities available for teachers to support the learning needs of children with disabilities in the inclusive school setting classrooms in Ghana. The study revealed the following: Pilot inclusive schools either have inadequate facilities to support the teaching of children with disabilities in regular classrooms or such facilities are non-existing in some of these inclusive schools. Some children with disabilities partly benefit

or not at all from the teaching environment in inclusive schools. They therefore pass through the school, without the content having any impact on such children with diverse needs.

8. Recommendations

Based on the findings of the study, the following recommendations are made:

- The Special Education Division of the Ministry of Education should prioritise the provision of equipment to the various pilot inclusive schools, based on the types of disabilities that the special needs children are living with in their respective inclusive schools. These categories of equipment act as support for teaching and learning. The support may take the form of material support, educational support and support in the classroom.
- Posting of newly trained teachers to inclusive schools in Ghana should be made optional. It should be opened as well to teachers who have initial training in Special education and are willing to teach in inclusive classrooms. This will ensure commitment of teachers to teaching children with disabilities alongside their non-disabled peers in the inclusive classrooms.

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